kept communications channels from being used for ''site-specific'' farming? Its promise and all that means to the farming sector and the American economy as a whole would never have been realized. I ask consent the ''Investor's Business Daily'' article be printed in the RECORD immediately following my remarks.

The PRESIDING OFFICER. Without objection, it is so ordered. (See exhibit No. 1.)

Mr. PRESSLER. Americans are great and diverse thinkers. Unfortunately, not enough of that original thought and invention takes place in the big gray stone government buildings that sit around Washington. What we need to do is to try to unleash American ingenuity. At a minimum, we need to make sure we do not block it. I will continue to fight to make sure we do not—whether it is thought the comprehensive telecommunications reform bill, spectrum policy reform or public broadcasting reform.

In conclusion, Mr. President, let me say I think it is time that we fundamentally think about spectrum policy reform in this country. I think we must think about the taxpayers.

The Commerce Committee has been charged to raise $17 billion, give or take a few half billion. Indeed, we are told that we are supposed to round everything off to a half-billion dollars. So, having grown up on a farm in South Dakota and being told to round things off, in my response to a half-billion dollars, that is quite a change from the kind of money that I usually think about in my life.

In any event, the new potential uses of the spectrum of the property of the American people—as William Safire says, they should be auctioned off. How else will we do it? The auction system has been used successfully for some of the earlier spectrum that we have auctioned off.

We now have this complicated matter where the broadcasters propose to migrate from the spectrum they are on, the analog, to the UHF and digital, and they say that at some point they will give back the original spectrum, although some say that when the time comes that will not happen.

What we are proposing here is not to take anything away from them, not to take anything that they feel they may have paid for in terms of licenses to stations. What we are proposing is merely to auction the new uses of the spectrum, and the American taxpayers have a great interest in this. It is billions of dollars.

I propose that we use a small portion of that to capitalize public broadcasting and to set up a privatized base, and they would then be cut free from annual appropriations. We could eliminate the headquarters, the Corporation for Public Broadcasting, and many of the stations will testify this week that they would like that approach. We could do that without spending any appropriated taxpayers' money.

So we need to have some innovative thinking. We also need to think about reinventing many areas. As Mr. Safire quotes in his article, he quotes me as saying in the public broadcast area there is much spectrum and many overlapping jurisdictions where the taxpayers could be saved a great deal of money.

I know that anyone who makes proposals along these lines will be criticized by both the broadcasters and some in the public broadcasting area. In fact, I am sure the broadcasters will strongly oppose—I know they are strongly opposed to what I am trying to do.

The people inside the beltway here in public broadcasting are strongly opposed. They are strongly opposed to changing anything.

The stations have formed a coalition, that they want to change, and they would like to see this. The people out in the country in public broadcasting would like to see the change.

So, Mr. President, we stand at a crossroads with this spectrum reform. It is something that sounds like Greek to the average citizen, but the average taxpayer has a great interest in it. We have a responsibility to stand up to special interests and to auction off those portions of the spectrum that will provide new uses and will provide billions of dollars for the taxpayers of this country.

It will provide the basis for the Commerce Committee's reconciliation responsibilities, and it will provide our country with a more innovative and a better future. I yield the floor.

EXHIBIT 1

PLOWS, PC'S, SATELLITE DISHES

(By Ira Breskin)

As computer power drops in price, a new way to farm called site-specific or precision farming is taking off.

Precision farming lets growers take into account the unique features of each field, without boosting cost much. Paycheck usually takes about a year.

''Farmers used to farm fields,'' said David Franzen, a soil expert at North Dakota State University in Fargo. ''Now they farm locations in fields.''

Within five years, about half the 150,000 major grain farmers in the Midwest will use the approach, says Harold Reetz, Midwest director of the Potash and Phosphate Institute.

About 10% to 15% do now, he says. Most started this year or last. Sugar beet growers also are strong proponents.

''Interest among farmers is stronger than we anticipated,'' Reetz said. ''It helps us deal with the variability that is out there.'' Among these are big differences in soil found across a large farm.

The goal is to make the land more productive by using just the right amount of costly fertilizer and pesticide for each field or even part of a field down to a 20-foot section. These inputs now are blended to meet average regional conditions.

Fully outfitted farmers need high-tech yield monitors, crop moisture sensors and a satellite receiver, all mounted on a tractor. Personal computers and special analytical software usually is bought separately or provided by a consultant. Farmers also can buy special gear for applying field nutrients.

''The one thing that makes site-specific farming work is the computer processing power that is available today,'' said Steve Koep, marketing manager at privately held Ag Chem Equipment Co. in Minnesota, Minn. The company makes a 20-ton-capacity precision fertilizer applicator that costs about $250,000.

Site-specific farming ''minimizes cost and maximizes production,'' said Ron Phillips, a spokesman for the Fertilizer Institute in Washington.

The environment also gains. By making better use of nutrients, farmers reduce leaching, runoff into streams and soil erosion. Pesticide use often is cut.

Most farm chemical suppliers back site-specific farming because it helps them provide value-added service, says Jim Egenreider, regulatory affairs director at the Agricultural Retailers Association in Washington.

''For (farm) cooperatives, it's a wash,'' said Cheryl Kohls, an agronomy equipment specialist with Conex-Land O'Lakes Services, a co-op in St. Paul, Minn.

Farmers may use less fertilizer in one area but more in another. And even if co-ops do sell fewer chemicals, many also supply soil testing and other services needed for precision farming.

About half the time, farmers get exacting field maps so they can receive the most precise results. Farmers use a plow-mounted device to record signals from an orbiting satellite, part of the Global Positioning System.

New ''differential correction'' signals have boosted precision farming. They unscramble and orient the GPS satellite signal to a known, fixed point, ensuring accuracy.

The receiver is used to map the field on a grid. Separately, crop yield and moisture data are taken from sensors on the tractor when farmers harvest crops. The field maps and crop data later are correlated on a PC.

Demand for GPS hardware is strong, says Colin Stewart, a sales rep for Satloc Inc. of Tempe, Ariz., a major supplier. The company's backlog now is four to six weeks.

Other data also may be matched up to the maps. In Britain, for instance, farmers can quickly assess weather conditions by retrieving recent photos of cloud formations taken by a weather satellite. The British Metrological Office offers these photos for a $750-a-year license fee and $7.50 a frame. Photos are shipped to PC's via phone lines.

Even without weather photos, farmers gain. By overlaying and analyzing crop and soil data from their fields, they can pinpoint where yields are falling short.

''Yield monitoring is like a report card,'' said Koep. ''It tells you how you did.''

Farmers can buy the receiver-yield monitor and analytical software for less than $8,500. The satellite signal runs about $500 a year.

Using the data to improve yields usually means hiring an expert who relies on still more high-tech equipment to correlate data and figure out why the yields are low. The experts analyze soil samples and field features, again using the satellite to get precision positions. They then offer prescription. Topography and location of drainage systems are taken into account.

Treatments are straightforward. Farmers vary the use of additives over a large field, seeking maximum efficiency.

They may rely on precision applicators with tracking equipment. But some, armed with the new data on their fields, will fall back on institution and their old application gear when putting this information to use.

## RECESS UNTIL 9 A.M. TOMORROW

The PRESIDING OFFICER. Under the previous order, the Senate stands

in recess until 9 a.m., Tuesday, September 12, 1995.

Thereupon, the Senate, at 8:18 p.m., recessed until Tuesday, September 12, 1995, at 9 a.m.

## NOMINATIONS

Executive nominations received by the Senate September 11, 1995:

DEPARTMENT OF THE TREASURY

DAVID A. LIPTON, OF MASSACHUSETTS, TO BE A DEPUTY UNDER SECRETARY OF THE TREASURY, VICE JEFFREY RICHARD SHAFER.

STATE JUSTICE INSTITUTE

FLORENCE K. MURRAY, OF RHODE ISLAND, TO BE A MEMBER OF THE BOARD OF DIRECTORS OF THE STATE JUSTICE INSTITUTE FOR A TERM EXPIRING SEPTEMBER 17, 1998. (REAPPOINTMENT)